

SPECIFICATION

SWIMMING GOGGLES

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

[0001] The present invention relates to swimming goggles, and particularly to swimming goggles which have easily-adjustable head strap and are conveniently used.

2. RELATED ART

[0002] Conventional swimming goggles usually consist of a left frame, a right frame, a nose support and a head strap. The head strap has adjusting fastener for positioning and adjusting the head strap. Each adjusting fastener of the conventional swimming goggles defines a pair of holes through which the head strap are pulled for adjusting. In use the head strap cannot be adjusted, and the swimming goggles have to be taken down for adjusting the head strap. So it is rather inconvenient to adjust head strap of conventional swimming goggles in use. Moreover, the head strap are usually adjusted by users' feeling. Thus, the head strap are uneasily adjusted to a desired position in such an adjusting way, whereby it is very troublesome to adjust head strap.

SUMMARY OF THE INVENTION

[0003] Accordingly, an object of the present invention is to provide swimming goggles which are adjusted and positioned easily even do not taken it off during the adjustment and are inching-adjustable.

[0004] The swimming goggles comprise a left frame and a right frame connected together. Engaging blocks are respectively formed on outward

sides of the left frame and the right frame. Each engaging block defines at least a receiving hole through a center thereof and forming a tongue at a lower portion thereof. Adjusting apparatuses are assembled to the engaging blocks for adjusting head strap. Each adjusting apparatus includes a base, a cover which are assembled with the bases for enveloping the engaging blocks and a fixing axis mounted on the base and the cover. The base has a first base wall, and a second base wall and a third base wall substantially perpendicularly depending from opposite edges of the first base wall, and defines a fastener holes therein for movably receiving the head strap. An axis hole is defined through the second base wall and the third base wall for pivotably receiving the fixing axis. The fixing axis forms a pressure arm substantially on a side thereof for pressure the tongue, and a stop arm on the other side thereof for engaging with stop slots of the head strap. The cover forms a resilient button thereon for abutting the pressure arm. A first assembling post and a second assembling post is respectively formed on an inner of the first base wall and a first cove wall of the cover and adjacent to an edge thereof for engaging with the receiving hole from on the opposite side.

[0005] When the swimming goggles are assembled that the pressure arm pressed the tongue to move downwardly and has reserved energy therein, and makes the stop arms engaging with a stopping slots of the head strap such that the head strap are allowed to move in a single direction. When the resilient button is pressed, the pressure arm is also moved downwardly and presses the tongue moving more downwardly so that the tongue has more reserved energy, meanwhile, the stop arm moves away from the stop slot of the head strap, such that the head strap are allowed to move in both directions and making the head strap adjustable. Notably, when the resilient button is free, the tongue with partial reserved energy drives the pressure arm to return, so the pressure arm abuts the stop slot of the head strap again.

Thus, a user can easily adjust the head strap by operation of the resilient buttons.

[0006] Each base defines at least a groove in an inward side thereof, and each cover forms at least a latch at an inward side thereof for latching with the grooves, thereby reliably retaining the base and the cover.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Fig. 1 is a perspective view of swimming goggles of the present invention, wherein a left frame of the swimming goggles is exploded.

[0008] Fig. 2 is a perspective view of the swimming goggles of Fig. 1 from another aspect.

[0009] Fig. 3 is an assembled view of the swimming goggles of Fig. 1.

[0010] Fig. 4 is a right-side view of the swimming goggles of Fig. 3.

[0011] Fig. 5 is a top view of the swimming goggles of Fig. 3.

[0012] Fig. 6 is a cross-sectional view taken along the line 6-6 in Fig. 4.

[0013] Fig. 7 is a cross-sectional view taken along the line 7-7 in Fig. 2.

[0014] Figs. 8 and 9 are schematic views for showing movement of head strap of the swimming goggles.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0015] With reference to Fig. 1, swimming goggles 1 of the present invention comprise a left frame 2, a right frame 3, a nose support 4, adjusting apparatuses 5 and head strap 6 (shown in Figs. 8 and 9). The nose support 4 is integrated with the left frame 2 and the right frame 3 and connects the left frame 2 with the right frame 3. The left frame 2 and the

right frame 3 respectively have outer surfaces 20, 30 and inner surfaces 21, 31. Receiving passages 22, 32 are respectively defined between the outer surfaces 20, 30 and the inner surfaces 21, 31 for accommodating eyeglasses 9. Soft pads 8 are unitarily formed with the inner surfaces 20, 30 of the left and the right frames 2, 3 to provide comfortable touch for a user. Engaging surfaces 23, 33 are respectively formed on outward sides of the left frame 2 and the right frame 3. A solid engaging block 24 unitarily and outwardly extends from a part of each of the engaging surfaces 23, 33. Each engaging block 24 defines a receiving hole 241 substantially through a center thereof for receiving a corresponding adjusting apparatus 5. In combination with Fig. 2, each engaging block 24 has a tongue 242 extending from a lower portion thereof for returning the adjusting apparatus 5. In combination with Fig. 7, each engaging block 24 further defines four L-shaped grooves 25 at corners adjacent to the engaging surfaces 23, 33.

[0016] Each adjusting apparatus 5 comprises a base 50, a cover 51 and a fixing axis 52. The base 50 has a first base wall 501, and a second base wall 502 and a third base wall 503 substantially perpendicularly depending from opposite edges of the first base wall 501. A first assembling post 504 is formed on an inner of the first base wall 501 and adjacent to an edge thereof for engaging with the receiving hole 241. An axis hole 505 is defined through the second base wall 502 and the third base wall 503 for receiving the fixing axis 52. Fastener holes 506 are defined in the first base wall 501 for movably receiving the head strap 6. The cover 51 has a first cover wall 511, and a second cover wall 512 and a third cover wall 513 substantially perpendicularly depending from opposite edges of the first cover wall 511. A second assembling post 516 is formed on an inner of the first cover wall 511 and adjacent to an edge thereof for engaging with the receiving hole 241 from on the other side. A resilient button 514 is integrally formed with and projects outwardly from the first cover wall 511. A plurality of inclined

projections 515 is formed on an outward surface of the resilient button 514 for enhancing friction. A pressure arm 521 is transversely formed on substantially a side of the fixing axis 52. The pressure arm 521 has an arcuate side 522 for pressure the tongue 242 (referring to Fig. 8), and a flat side 523 for abutting the resilient button 514. A stop arm 524 is formed on the other side of the fixing axis 52 and has an inclined end 525 for abutting a stop slot 60 of a head strap 6 (shown in Fig. 8). With reference to Figs. 6 and 7, in assembly, the cover 51 is assembled with the base 50 to envelop the engaging block 24. The second base wall 502 and the third base wall 503 respectively define grooves 507 in inward sides thereof. The second cover wall 512 and the third cover wall 513 respectively form latches 508 at inward sides thereof for latching with the grooves 507. L-shaped locking ribs 509 are formed respectively on the base 50 and the cover 51 and are corresponding to the L-shaped grooves 25 of the engaging blocks 24 for further retaining the base 50 and the cover 51 together.

[0017] With reference to Figs. 3-5, in assembly, the adjusting apparatuses 5 are respectively assembled on outward sides of the left frame 2 and the right frame 3. The resilient buttons 514 of the adjusting apparatuses 5 project slightly beyond the first cover wall 511 of the cover 51. Referring to Figs. 1 and 8, the fixing axis 52 is pivotably received in the axis hole 505. The pressure arm 521 abuts against the tongue 242 such that the tongue 241 has reserved energy to return the pressure arm 521. The stop arm 524 is pushed to engage the stop slot 60 of the head strap 6, allowing the head strap 6 only to move outwardly. Thus, when a user pulls the head strap 6 outwardly, the stop arm 524 moves away from the stop slot 60 of the head strap 6, and the inclined end 525 of the stop arm 524 disengages from the stop slot 60. When a user pulls the head strap 6 slantwise (as broken line shown in Fig. 8), the stop arm 524 moves toward the stop slot 60 of the head strap 6, and the inclined end 525 of the stop arm 524 engages with the stop

slot 60. Therefore, in use, the head strap 6 can be adjusted by the user's simple operation rather than taking down the swimming goggles. Referring to Fig. 9, the resilient button 514 is pressed, and the stop arm 524 moves away from the stop slot 60 of the head strap 6, making the head strap 6 adjustable. Notably, when the resilient button 514 is pressed, the flat side 522 of the pressure arm 521 is pressed. The arcuate side 523 presses the tongue 242 to move downwardly so that the tongue 242 has more reserved energy. When the resilient button 514 is free, the tongue 242 with partial reserved energy drives the pressure arm 524 to return, so the pressure arm 524 abuts the stop slot 60 again.

[0018] It is understood that the invention may be embodied in other forms without departing from the spirit thereof. Thus, the present examples and embodiments are to be considered in all respects as illustrative and not restrictive, and the invention is not to be limited to the details given herein.